

**FRIEDMAN & BRUYA, INC.**

**ENVIRONMENTAL CHEMISTS**

Date of Report: June 10, 1997  
Date Received: June 4, 1997  
Project: 7238, Metro Grab, PO #M57380  
Date Samples Extracted: June 5, 1997  
Date Extracts Analyzed: June 6, 1997

**RESULTS FROM THE ANALYSIS OF THE WATER SAMPLE  
FOR CHROMIUM, COPPER, NICKEL, ZINC  
USING METHOD 6010**

**Samples Processed Using Method 3005A**  
Results Reported as mg/L (ppm)

<u>Sample ID</u>	<u>Chromium</u>	<u>Copper</u>	<u>Nickel</u>	<u>Zinc</u>
M57380	1.7	1.5	2.1	<0.05
Method Blank	<0.05	<0.05	<0.05	<0.05

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ENVIRONMENTAL CHEMISTS

Date of Report: June 10, 1997

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Project: 7238, Metro Grab, PO #M57380

**QUALITY ASSURANCE RESULTS FOR  
THE ANALYSIS OF WATER SAMPLES  
FOR TOTAL METALS BY  
INDUCTIVELY COUPLED PLASMA (ICP)  
(METHOD 6010)**

Laboratory Code: 78591 (Duplicate)

<u>Analyte:</u>	<u>Reporting Units</u>	<u>Sample Result</u>	<u>Duplicate Result</u>	<u>Relative Percent Difference</u>	<u>Acceptance Criteria</u>
Chromium	mg/L (ppm)	1.7	1.7	0	0-20
Copper	mg/L (ppm)	1.5	1.6	6	0-20
Nickel	mg/L (ppm)	2.1	2.1	0	0-20
Zinc	mg/L (ppm)	<0.05	<0.05	nm	0-20

Laboratory Code: 78591 (Matrix Spike)

<u>Analyte:</u>	<u>Reporting Units</u>	<u>Spike Level</u>	<u>Sample Result</u>	<u>% Recovery</u>		<u>Acceptance Criteria</u>	<u>Relative Percent Difference</u>
				<u>MS</u>	<u>MSD</u>		
Chromium	mg/L (ppm)	5	1.7	100	96	80-120	4
Copper	mg/L (ppm)	5	1.5	94	98	80-120	4
Nickel	mg/L (ppm)	10	2.1	98	95	80-120	3
Zinc	mg/L (ppm)	5	<0.05	97	95	80-120	2

Laboratory Code: Spike Blank

<u>Analyte:</u>	<u>Reporting Units</u>	<u>Spike Level</u>	<u>% Recovery</u>		<u>Acceptance Criteria</u>	<u>Relative Percent Difference</u>
			<u>MS</u>	<u>MSD</u>		
Chromium	mg/L (ppm)	5	102	105	80-120	3
Copper	mg/L (ppm)	5	102	100	80-120	2
Nickel	mg/L (ppm)	10	103	106	80-120	3
Zinc	mg/L (ppm)	5	103	103	80-120	0

nm - The analyte was not detected in one or more of the duplicate analyses. Therefore, calculation of the RPD is not applicable.

AI  
9:05

... and Nest

## SAMPLE CHAIN OF CUSTODY

506-11344-1  
Alaska Copper Works  
Harbor  
Seattle WA 98124  
(206) 782-8739  
Contact Gerald A. Thompson  
Date 6-4-97

PURCHASE ORDER #

m 57380

3200 6<sup>th</sup> Ave S.

☐ Dispose after 30 days  
☒ Return Samples  
☐ Call for Instructions

Date/Time Sampled	Type of Sample	# of Jars	Lab Sample #	Analyses Requested
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6-4-52 P: 15

Type of Sample

# of  
Jars

Lab  
Sample #

### Analyses Requested

COMPANY

Date \_\_\_\_\_

Time

Georas A. Thompson

ACW

6-4-97

9:00 am

Siri Nelson

FBI

6-4-97

9:00 AM

09/15/94.

AKC-0011471

**FRIEDMAN & BRUYA, INC.**

**ENVIRONMENTAL CHEMISTS**

James E. Bruya, Ph.D.  
Beth Albertson, M.S.  
Charlene Jensen, M.S.  
Bradley T. Benson, B.S.  
Kurt Johnson, B.S.  
Melanie Kirol, B.S.  
June 10, 1997

3012 16th Avenue West  
Seattle, WA 98119-2029  
TEL: (206) 285-8282  
FAX: (206) 283-5044  
e-mail: fbi@isomedia.com

**INVOICE # 97ACU0610-1  
DUPLICATE COPY**

Accounts Payable  
Alaskan Copper Works  
628 South Hanford St.  
Seattle, WA 98134

RE: Project 7238, Metro Grab, PO# M57380: Results of testing requested by  
Gerry Thompson, Project Manager for material submitted on June 4, 1997.

1 water sample analyzed for  
Chromium, Copper, Nickel, Zinc  
using Method 6010 @ \$65 per sample

\$ 65.00

Amount Due .....

\$ 65.00

FEDERAL TAX ID #(b) (6)



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FAX: (206) 283-5044  
e-mail: fbi@isomedia.com

**June 10, 1997**

**Gerry Thompson, Project Manager  
Alaskan Copper Works  
628 South Hanford St.  
Seattle, WA 98134**

**Dear Mr. Thompson:**

**Included are the results from the testing of material submitted on June 4, 1997  
from your 7238, Metro Grab, PO #M57380 project.**

**We appreciate this opportunity to be of service to you and hope you will call if you  
should have any questions.**

**Sincerely,**

**FRIEDMAN & BRUYA, INC.**



**Kurt Johnson  
Chemist**

**keh  
Enclosures  
ACU0610R.DOC**